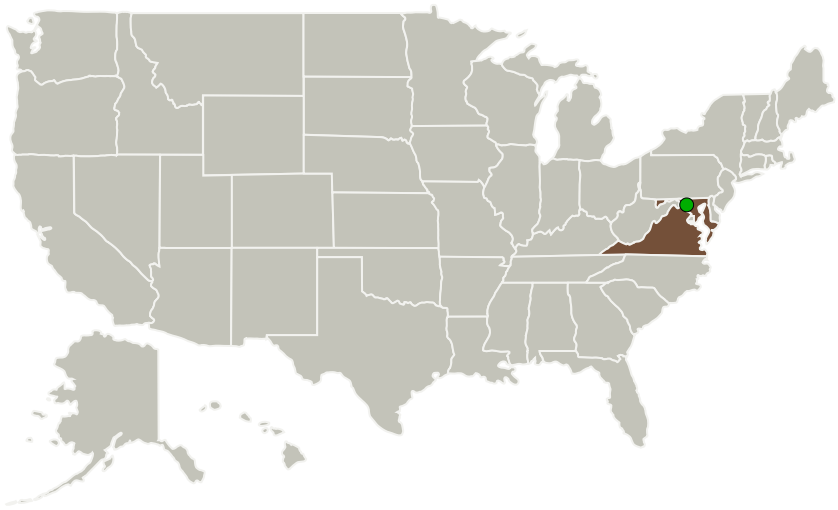
New Lidar Laser Configuration for Earth Science Measurements, Phase I

Completed Technology Project (2011 - 2012)

Project Introduction

Fibertek, Inc. and Univ. of Maryland, Baltimore County (UMBC) propose to optimize and verify, an advanced platform for direct-detection lidar transmitter, based on using a dual-wavelength fiber-lidar transmitter. The proposed lidar tramsitter is based on a recently developed fiber lidar platform at Fibertek, that is capable of high spectral resolution at both 1064nm/532nm, has flexible pulse capability from sub-nsec to micro-seconds, with arbitrary optical waveform generation. This will be integrated in the lidar measurement system at UMBC, and lidar calibration, validation, and performance analysis will be conducted under different atmoshperic aerosol loading conditions. Such measurements will also be compared to co-located measurements conducted via the ELF and MPLNET lidar systems.

Primary U.S. Work Locations and Key Partners



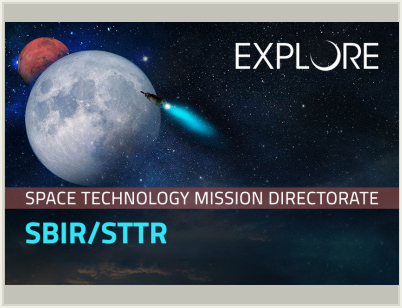


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Table of Contents

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
Fibertek, Inc.	Lead Organization	Industry	Herndon, Virginia
Goddard Space Flight Center(GSFC)	Supporting Organization	NASA Center	Greenbelt, Maryland
University of Maryland-Baltimore County(UMBC)	Supporting Organization	Academia	Baltimore, Maryland

Primary U.S. Work Locations	
Maryland	Virginia

Project Transitions

March 2011: Project Start

February 2012: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/140249)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Fibertek, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

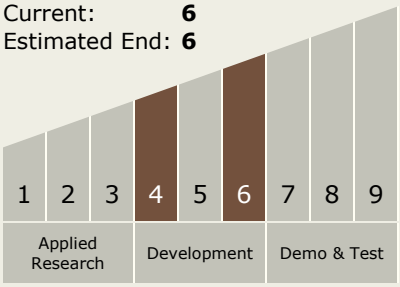
Carlos Torrez

Principal Investigator:

Youming Chen

Technology Maturity (TRL)

Start: **4**
Current: **6**
Estimated End: **6**



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Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.5 Lasers

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System